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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,853	09/24/2004	Yoji Ito	019519-435	8703

21839 7590 02/22/2006

BUCHANAN INGERSOLL PC  
(INCLUDING BURNS, DOANE, SWECKER & MATHIS)  
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EXAMINER

TON, MINH TOAN T

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/508,853	Applicant(s) ITO, YOJI	
	Examiner Toan Ton	Art Unit 2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (US 6937307) in view of Kitagawa et al (US 6404469).

Ito discloses a liquid crystal display device comprising (see at least Figures 1-2): a polarizing plate having a polymer film, a polarizer 2a/2b, a polymer substrate 3a/3b, and an optically anisotropic layer 4a/4b comprising a liquid crystal compound, laminated in this order.

The limitation not explicitly disclosed by Ito is the polarizer having a thickness of 10 to 25 um. Kitagawa discloses a liquid crystal display device comprising a polarizer having a thickness of 5-80 um (overlapping Applicant's range of 10-25 um, it is noted that overlapping ranges have been held as at least obvious), wherein the device yields several advantages such as a wide viewing angle, less brightness unevenness. Further, it would have been at least obvious to one of ordinary skill in the art to employ elements such as a polarizer having a small thickness for achieving advantages such as thin, light-weight display device (a common goal for LCD devices). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to employ a polarizer having a thickness of 10-25 um for achieving advantages such as a wide viewing angle, less brightness unevenness, light-weight display device.

Ito discloses the polymer substrate having a thickness of 50-200 um (overlapping at least

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30-70  $\mu\text{m}$ ), wherein materials for the polymer substrate comprising cellulose acetate.

Ito discloses the optical anisotropic layer comprising discotic liquid crystal compound.

Ito discloses the liquid crystal display device comprising a liquid crystal cell and two polarizing plates placed on both faces of the liquid crystal cell (see at least Figures 1-2).

Ito discloses the liquid crystal display device comprising the liquid crystal cell of an OCB mode, a VA mode, or a TN mode. (See at least col. 49, lines 40-56).

Ito discloses the liquid crystal display device comprising  $R_e$  retardation value defined by the following formula (I) in a range of 20-200 nm (overlapping 20 to 70 nm), a  $R_{th}$  retardation value defined by the following formula (II) in a range of 70-300 nm (overlapping/within 70 to 400 nm), wherein  $R_e = (n_x - n_y)d$  and  $R_{th} = [(n_x + n_y)/2 - n_z]d$ ,  $n_x$  and  $n_y$  are refractive indexes of a slow axis and a fast axis in plane of the polymer film substrate, and  $n_z$  is a refractive index of a thickness direction of the polymer film substrate.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 16, 2006

  
**TOAN TON**  
**PRIMARY EXAMINER**